2. First 12 Stack Maze Coordinates Popped

|  |  |
| --- | --- |
| Row# | Col# |
| 6 | 4 |
| 6 | 3 |
| 6 | 5 |
| 7 | 5 |
| 8 | 5 |
| 8 | 6 |
| 8 | 7 |
| 8 | 8 |
| 7 | 8 |
| 6 | 6 |
| 5 | 4 |
| 4 | 4 |

4. First 12 Queue Maze Coordinates Popped

|  |  |
| --- | --- |
| Row# | Col# |
| 4 | 4 |
| 6 | 6 |
| 7 | 5 |
| 3 | 4 |
| 4 | 5 |
| 8 | 5 |
| 2 | 4 |
| 4 | 6 |
| 8 | 6 |
| 1 | 4 |
| 3 | 6 |
| 8 | 7 |

How do the stack and queue algorithms differ?

Stacks use a “first in, last out” method; as the while loop progresses, the last coordinate put into the stack is popped out first, so the program will always check the West, South, East, and then North direction. This differs from the queue algorithm because queues use a “first in, first out method.” The program will pop out the first coordinate instead of popping out the last coordinate, so we will check the North, East, South, and West directions in this respective order.